

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
19 May 2005 (19.05.2005)

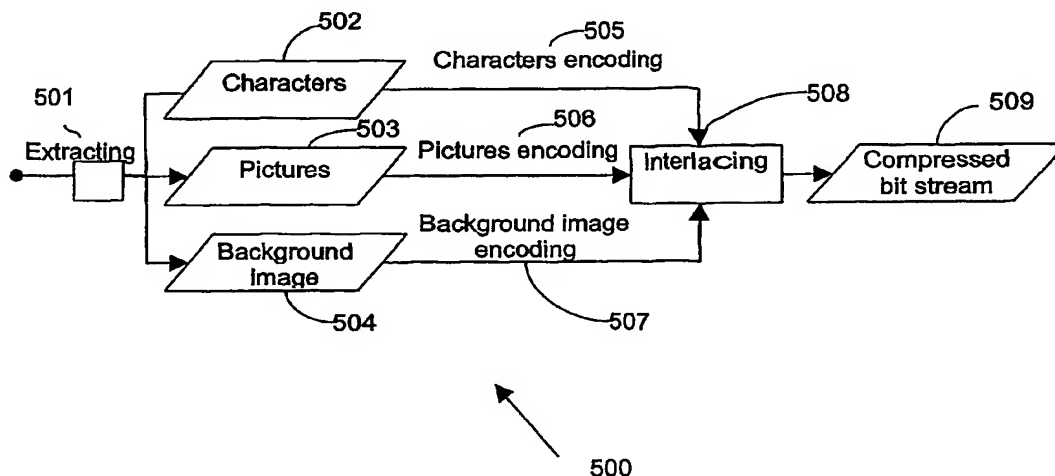
PCT

(10) International Publication Number
WO 2005/046213 A1

- (51) International Patent Classification⁷: H04N 1/415, 1/64, G06T 9/00 (74) Agent: ELLA CHEONG SPRUSON & FERGUSON (SINGAPORE) PTE LTD; P.O. Box 1531, Robinson Road Post Office, Singapore 903031 (SG).
- (21) International Application Number: PCT/SG2004/000366 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 6 November 2004 (06.11.2004) (81) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/517,928 6 November 2003 (06.11.2003) US (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (for all designated States except US): NATIONAL UNIVERSITY OF SINGAPORE [SG/SG]; 10 Kent Ridge Crescent, Singapore 119260 (SG).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): LIU, Chaoqiang [CN/SG]; Apt Blk 353, #04-39, Kang Ching Road, Singapore 610353 (SG). XIA, Tao [CN/SG]; Block 1F, Gillman Heights, #18-50, Singapore 105001 (SG).
- Published:
— with international search report

[Continued on next page]

(54) Title: DOCUMENT IMAGE ENCODING/DECODING



(57) Abstract: A method of encoding a document image, the method comprising extracting one or more picture areas from the document image; extracting one or more character areas from the document image; obtaining a background image by subtracting the image and character areas from the document image; classifying character blocks of the character areas with reference to dynamically generated templates; and encoding the background image utilising a SAQ wavelet encoder.

WO 2005/046213 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.